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tion of the orbit of this comet are remarkably discordant, as may be perceived from the following comparison :—

Villarceau	2921 days.
Vogel	2709
D'Arrest	2577
— (corrected elements from normal places)	2353
Pogson	2001

" Of these, D'Arrest's corrected elements are, I believe, nearest the truth, and will serve to follow the comet during the remainder of its present apparition.

" With the larger telescopes it will probably be visible for some time longer; and as so much uncertainty exists at present with respect to the time of its return, it is to be sincerely hoped that such valuable observations will be obtained."

BRORSEN'S FOURTH COMET.*

On August 1, at about $11^h 45^m$ P.M., M. Brorsen, of Senftenberg, discovered a telescopic comet in *Can. Venat.* Though small, he calls it very bright. By seven comparisons with Bessel's star, Zone 413, 8th mag., $13^h 53^m 57^s{\cdot}12 + 31^\circ 31' 40''{\cdot}2$, he obtained the following place :—

1851.	Senftenberg M.T. h m s	R.A. Comet. h m s	Dec. Comet. ° ′ ″
Aug. 1	13 9 21·4	13 54 58·43	+31 27 7·3
Daily variation		+1 32·9	+ 23 25

ALTONA. (Dr. Petersen.)

1851.	Altona M.T. h m s	R.A. h m s	Dec. ° ′ ″
Aug. 4	11 25 53	13 59 58·93	+32 48 2·6

The air so thick and unfavourable that the comet was seen with difficulty. The observation in declination not to be relied on.

HAMBURG. (M. Rümker.)

1851.	Hamburg. M.T. h m s	R.A. ° ′ ″	Dec. ° ′ ″
Aug. 4	11 16 11·5	209 59 43·8	+32 48 22·1
5	11 10 0·7	210 26 21·2	33 15 36·5
6	10 47 25·4	210 53 15·7	33 42 25·8
19	10 46 6·3	217 42 25·4	39 51 13·0
21	9 40 52·3	218 55 17·2	40 48 37·7
22	9 36 19·6	219 33 30·4	41 18 1·0
24	9 49 35·1	220 53 51·4	42 18 2·2
25	9 16 51·5	221 36 36·7	42 48 36·4
28	9 20 36·7	223 47 18·1	44 18 52·7
29	10 38 26·2	224 36 27·8	44 51 15·3
Sept. 6	9 37 38·1	231 49 28·2	+48 59 39·7

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* This was also discovered by M. Schweizer at Moskow, on August 21.

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1851.	Hamburg M.T. h m s	R.A. ° ′ ″	Decl. ° ′ ″
Sept. 15	9 15 36·6	243 15 27·5	+53 38 42·9
18	9 41 21·3	248 16 46·2	55 5 10·6
22	9 37 10·7	256 5 57·7	56 45 49·9
26	10 32 39·5	265 33 59·0	57 59 30·7
27	9 44 34·8	268 4 24·7	+58 10 22·2

LIVERPOOL. Equatoreal. (Mr. Hartnup.)

1851.	Green. M.T. h m s	R.A. h m s	Log $\frac{p}{P}$	N.P.D. ° ′ ″	Log $\frac{q}{P}$	Star of Comp.
Aug. 13	10 18 21·4	14 17 16·87	+8·690	53 1 35·4	−9·7558	B.A.C. 4812
	10 38 20·3	18·29	8·695	1 18·3	9·7788	— —
	10 58 19·5	20·21	8·698	0 52·4	9·8007	— —
15	10 24 47·4	14 21 37·28	8·699	52 4 26·8	9·7605	— —
	10 39 46·4	38·28	8·702	4 14·0	9·7781	— —
	10 54 45·5	39·49	8·703	3 53·7	9·7950	— —
25	9 14 18·0	14 46 23·59	8·700	47 11 56·5	9·6346	B.A.C. 4958
	9 34 17·4	25·45	8·714	31·8	9·6667	— —
26	9 49 11·8	14 49 18·85	8·726	46 40 56·7	9·6831	— —
	10 4 11·5	20·68	8·732	40·6	9·7093	— —
	10 19 10·8	21·93	8·736	17·0	9·7312	— —
ept. 6	9 53 59·5	15 27 29·46	8·775	40 53 59·6	9·6416	B.A.C. 5177
	10 14 0·8	33·55	+8·781	38·1	−9·6784	— —

The observations are corrected for refraction. The corrections to be applied for parallax in time and arc are represented by *p* and *q*. P is the equatoreal horizontal parallax.

The following are the assumed *mean* places of the stars of comparison for 1851·0:—

	R.A. h m s	N.P.D. ° ′ ″	Authority.
B.A.C. 4812	14 26 4·63	51 2 16·13	Greenwich 12-year Catalogue.
— 4958	14 56 20·07	49 1 9·78	— — —
— 5177	15 33 30·00	42 42 32·01	Oxford and Edinburgh Observations.

DURHAM. Fraunhofer Equatoreal. (Mr. R. C. Carrington.)

1851.	Green. M.T. h m s	R.A. h m s	Log $\frac{p}{P}$	N.P.D. ° ′ ″	Log $\frac{q}{P}$	No. of Comps. in R.A.	No. of Comps. in N.P.D.	Set.
g. 19	11 0 19·0	14 30 54·57	+8·697	50 7 53·0	−9·8100	18	6	1
20	10 57 16·0	33 21·45	8·603	49 38 46·6	9·8058	15	5	2
21	10 9 15·1	35 46·43	8·702	49 10 19·8	9·7474	8	3	3
26	10 45 8·8	14 49 25·09	8·724	46 39 48·5	9·7820	7	3	4
30	10 38 37·1	15 1 43·41	8·739	44 37 17·0	9·7637	14	5	5
t. 1	12 52 51·0	8 49·24	8·661	43 31 45·9	9·9034	5	5	6
5	9 56 6·6	15 23 23·45	8·759	41 29 57·5	9·6733	6	6	7
21	10 57 28·7	16 56 41·50	+8·842	33 35 25·1	−9·6429	5	5	8

P is the equatoreal horizontal parallax in seconds of arc; *p* and *q* are the required corrections in time and arc respectively.

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Mean places of Stars of Comparison, 1851·0.

Name of Star.	R.A.	N.P.D.	Set.
	h m s	° ′ ″	
Lalande, H.C. 2664	114 28 50·47	49 55 1·0	1
— 26804	34 48·25	49 28 3·7	2
Green. T.Y.C. 1182	37 57·50	48 54 29·0	3
Lalande, H.C. 27279	50 32·27	46 36 19·2	4
Green. T.Y.C. 1218	14 57 50·76	44 46 15·1	5
Argel. Z. 118, No. 7	15 4 33·73	43 42 14·8	6
Groomb. 2239 (Johnson)	15 24 38·87	41 46 22·7	7
Argel. Z. 13, No. 68	17 5 4·42	33 38 27·0	8

No nucleus traceable; the comet has gradually been becoming fainter; it was a very difficult object on Sept. 21. I have seen it twice since that date, but have been unable to procure any observation. The ring-micrometer was used on the three last occasions.

CAMBRIDGE. Northumberland Equatoreal. (Prof. Challis.)

Greenwich M.T.		R.A.	Log $\frac{p}{P}$	N.P.D.	Log $\frac{q}{P}$	No. of Comps.	Star.
1851.	h m s	h m s		° ′ ″			
Aug. 11	10 44 28·2	14 13 9·68	+8·704	53 57 36·9	−9·7937	6	*a*
18	12 49 45·8	28 41·43	8·652	50 34 47·8	9·9113	5	*b*
28	12 38 28·9	14 55 38·37	+8·686	45 26 21·6	−9·8985	5	*c*

Assumed *mean* places of the stars, 1851·0.

	Mean R.A.	Mean N.P.D.	Name of Star.
	h m s	° ′ ″	
a	14 11 41·56	53 48 2·1	B.A.C. 4747
b	14 26 4·84	51 2 17·0	γ Böotis = B.A.C. 4812
c	14 56 32·15	45 42 17·6	H.C. 27447

The places of the catalogues have been adopted.

Elements.[*]

By M. G. Rümker.

Perihelion Passage, 1851, Aug. 26·216505.

	° ′ ″	
Longitude of Perihelion......	309 51 7	Appt Eqx Aug. 4.
— Node...........	225 1 1	
Inclination.....................	40 9 24	
Log *q*..........................	9·999860	

Motion direct.

In the course of the vacation, Lieut. Stratford published an ephemeris of the periodic comet discovered by Brorsen, Feb. 26, 1846, which was expected to return this autumn. The place of the comet is given on three suppositions, that its perihelion passage occurs on Nov. 10, or eight days sooner or later.

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[*] M. G. Rümker was also so obliging as to forward an approximate ephemeris.